

K083545

**Section 7 - 510(k) Summary**

The following information is being submitted in accordance with the requirements of 21 CFR §807.92

**Date:** April 30, 2009

**Name of Submitter:**

Ziehm Imaging, Inc.  
4181 Latham Street  
Riverside, CA 92501  
(951) 718-2020

MAY 15 2009

**Contact Person:**

Richard L. Westrich  
Vice President of Regulatory Affairs and Quality Assurance  
4181 Latham Street  
Riverside, CA 92501  
Office phone: +951-781-2020 ext 140  
Fax: +951-781-6457

**Device Proprietary Name:**

Ziehm Vision RFD

**Classification Name:**

Regulation Description: System, X-Ray, Fluoroscopic, Image Intensifier,  
Product Code: JAA Regulation number: 892.1650  
Subsequent Product Code: MQB Regulation number: 892.1650

**Common/Usual Names:**

Digital Mobile C-Arm  
Mobile Surgical C-Arm  
Mobile C-Arm

**Substantial Equivalence:**

The ZIEHM VISION RFD mobile c-arm has been found to be substantially equivalent to the following current legally marketed devices.

- Ziehm Imaging, ZIEHM VISION R K061203 Product Code JAA & IZL
- Ziehm Imaging, ZIEHM VISION<sup>2</sup> FD K073346 Product Code JAA, MQB & IZL

These devices are mobile C-arm type x-ray systems intended for fluoroscopic imaging. The systems include high-voltage x-ray generator, and can control, fixed anode and rotating x-ray tubes, Flat-panel Detector SSXI, or Image Intensifier, and monitor cart/workstations with video image displays, digital image processing and image storage capability, as well as image export functionality.

**Device Description:****Indications for Use**

The ZIEHM VISION RFD is intended for use in providing medical imaging, using pulsed and continuous fluoroscopic digital imaging, as well as digital subtraction and cine image capture during diagnostic interventional, and surgical procedures where intra-operative imaging and visualization of complex anatomical structures of both lower and higher contrast density are required, such procedures may included but are not limited to those of interventional cardiology, heart surgery, hybrid procedures, interventional radiology, interventional angiography, electrophysiology, pediatrics, endoscopic, urological, gastroenterology, orthopedic, maxillofacial surgery, neurology, neurosurgery, critical care, emergency room procedures, and those procedures visualizing structures of the cervical, thoracic, and lumbar regions of the spine and joint fractures of the upper and lower extremities, and where digital image data is required for computer aided surgery procedures and whenever the clinician benefits from the high degree of geometric imaging accuracy, and where such fluoroscopic, cine and DSA imaging is required in and around high magnetic fields. The visualization of such anatomical structures assists the clinician in the clinical outcome. At the discretion of a physician the device may be used for other imaging applications.

This device does not support direct radiographic film exposures and is not intended for use in performing mammography.

**User Characteristics**

The ZIEHM VISION RFD does not require nor is it intended to be used in contact with patients. In some circumstances however, as part of its use in clinical environments the patient may come in contact with the device when operator moves or positions the device. The device is intended for use by health care professionals such as but not limited to physicians, orthopedic surgeons, vascular surgeons, neuro-vascular surgeons, cardiologists, radiologists, or other clinical physicians and technologists in hospitals, emergency rooms, out-patient clinics, and other clinical environments. Ziehm Imaging anticipates the device will be used on a nearly daily basis. Ziehm Imaging applications specialists and/or qualified site personnel provide on site operator training in the proper use of the device.

**General Description**

The ZIEHM VISION RFD Mobile Stand incorporates a small compact design making the positioning of the c-arm in relation to the patient easier for the operator. The C-profile provides fixed distance mounting of the generator and Flat-panel Detector (SSXI) and manual rotation around a non iso-centric location. The mobile stand allows manual rotational and linear movements with a motorized vertical movement for positioning the c-arm at various angles and distances for visualization of patient's anatomical structures. The high frequency generator with dual focus rotating anode x-ray tube, advanced active cooling, x-ray control, are assembled in one housing in a single mono-block generator tube housing assembly, with the virtual collimator mounting to the housing assemble. The Ziehm Vision RFD can have one of the following two generators 7.5 kW or optional 20 kW. They both provide pulsed and continuous fluoroscopy operations including a special digital radiography (snapshot) mode. The VisionCenter is a centralized touch screen panel providing the user/operator with a clear graphical user Interface including the x-ray control panel. The ZIEHM VISION RFD Monitor Cart workstation consists of a mechanical cart assembly, supporting dual high-resolution flat panel LCD display monitors and interfaces are provided for peripheral devices such as external monitors, video printers, injectors and storage devices (USB, DVD).

**Standards:**

The ZIEHM VISION RFD mobile x-ray devices shall be tested and be shown to meet the appropriate requirements of the following standards prior to being marketed.

21 CFR 1020.30-32	Federal Performance Standard for Diagnostic X-ray Systems
93/42/EEC -	Annex II of EC directive of the Medical Devices Directive (MDD)
IEC 60601-1,	Medical Electrical Equipment, General Requirements for Safety
IEC 60601-1-2	Medical Electrical Equipment, General Requirements for Safety, Electromagnetic Compatibility
IEC 60601-1-3,	Medical Electrical Equipment, Radiation Protection in Diagnostic X-ray Equipment
IEC 60601-1-4,	General requirements for safety, Programmable electrical medical systems.
IEC 60601-2-7,	Medical Electrical Equipment, Safety of HV/X-ray Generators
IEC 60601-2-28	Medical Electrical Equipment Part 2: Particular Requirements for the Safety of X-Ray Source Assemblies and X-Ray Tube Assemblies for Medical Diagnosis
IEC 60601-2-32,	Medical Electrical Equipment, Safety of Associated X-ray Equipment
IEC60601-2-43,	Particular requirements for the safety of X-Ray equipment for interventional procedures.
IEC 60825-1,	Safety of laser products, Equipment Safety, requirements, and user guide
IEC 14971	Risk Management

**Conclusion:**

The ZIEHM VISION RFD does not raise new questions of safety or effectiveness and is substantially equivalent to the currently marketed devices Ziehm Vision<sup>2</sup> FD (K073346) and Ziehm Vision R (K061203)

End of 510(k) Summary

---

Richard L. Westrich  
Vice President Regulatory Affairs and Quality Assurance  
Ziehm Imaging, Inc.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

MAY 15 2009

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Mr. Richard Westrich  
V.P. Regulatory Affairs and Quality Assurance  
Ziehm Imagine, Inc.  
4181 Latham Street  
RIVERSIDE CA 92501

Re: K083545  
Trade/Device Name: ZIEHM VISION RFD  
Regulation Number: 21 CFR §892.1650  
Regulation Name: Image-intensified fluoroscopic x-ray system  
Regulatory Class: II  
Product Code: MQB  
Dated: March 25, 2009  
Received: April 6, 2009

Dear Mr. Westrich:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

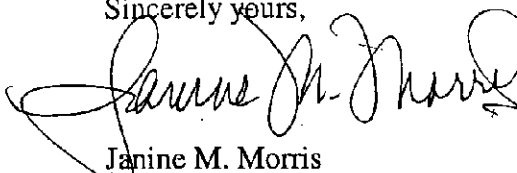
If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Center for Devices and Radiological Health's (CDRH's) Office of Compliance at one of the following numbers, based on the regulation number at the top of this letter.

21 CFR 876.xxx	(Gastroenterology/Renal/Urology)	(240) 276-0115
21 CFR 884.xxx	(Obstetrics/Gynecology)	(240) 276-0115
21 CFR 892.xxx	(Radiology)	(240) 276-0120
Other		(240) 276-0100

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please contact the CDRH/Office of Surveillance and Biometrics/Division of Postmarket Surveillance at 240-276-3464. For more information regarding the reporting of adverse events, please go to <http://www.fda.gov/cdrh/mdr/>.

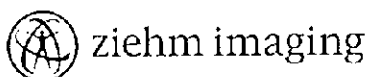
You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (240) 276-3150 or at its Internet address <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely yours,



Janine M. Morris  
Acting Director, Division of Reproductive,  
Abdominal, and Radiological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure



## Indications for Use Statement

Applicant: Ziehm Imaging, Inc.

510(k) Number (if known):

K083545

Device Name:

ZIEHM VISION RFD

### Indications for Use:

The ZIEHM VISION RFD is intended for use in providing medical imaging, using pulsed and continuous fluoroscopic digital imaging, as well as digital subtraction and cine image capture during diagnostic interventional, and surgical procedures where intra-operative imaging and visualization of complex anatomical structures of both lower and higher contrast density are required, such procedures may included but are not limited to those of interventional cardiology, heart surgery, hybrid procedures, interventional radiology, interventional angiography, electrophysiology, pediatrics, endoscopic, urological, gastroenterology, orthopedic, maxillofacial surgery, neurology, neurosurgery, critical care, emergency room procedures, and those procedures visualizing structures of the cervical, thoracic, and lumbar regions of the spine and joint fractures of the upper and lower extremities, and where digital image data is required for computer aided surgery procedures and whenever the clinician benefits from the high degree of geometric imaging accuracy, and where such fluoroscopic, cine and DSA imaging is required in and around high magnetic fields. The visualization of such anatomical structures assists the clinician in the clinical outcome. At the discretion of a physician the device may be used for other imaging applications.

This device does not support direct radiographic film exposures and is not intended for use in performing mammography.

Prescription Use X  
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE  
OF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

[Signature]  
(Division Sign-Off)

Division of Reproductive, Abdominal and  
Radiological Devices

510(k) Number K083545